

REMARKS

This amendment is in response to the Office Action mailed December 4, 2006.

Applicant wishes to thank the Examiner for the Examiner Interview conducted by telephone on March 28, 2007. In particular, the Applicant wishes to thank the Examiner for clarifying the USPTO's position with respect to rejections under 35 USC 101. Applicant has incorporated portions of the Examiner's suggestions into this response. Applicant notes that agreement as to patentability was not reached; however, the Examiner has agreed to consider Applicant's amendments and arguments as presented herein. The present remarks shall constitute an Interview Summary pursuant to MPEP §713.04.

I. Status of the Claims

At the time of the Action, Claims 1-7, 9-11, 14-21 and 24-25 were pending.

Claims 9-11 and 14 were objected to under 37 CFR 1.75 as being in improper form because they claimed dependency to a canceled claim. Claims 15-21 and 24 stand rejected under 35 USC 101.

Claims 1, 3-4, 6-7, 9-11, 15-16, 18-21 and 25 to stand rejected under 35 USC 103 as being unpatentable over U.S. Patent No. 3,041,455 to Meyerhof (Meyerhof) in view of U.S. Patent No. 5,023,449 to Holenka. Claim 2 stands rejected under 35 USC 103 as being unpatentable over Meyerhof, Holenka and U.S. Patent No. 4,764,677 to Spurney ("Spurney"). Claims 14 and 24 stand rejected under 35 USC 103 as being unpatentable over Meyerhof and Holenka in view of US Patent No. 4,937,446 to McKeon ("McKeon").

In view of the above amendments and the remarks that follow, Applicant submits that the pending claims are patentable over the cited references and request that the rejections/objections to the claims be withdrawn.

II. The objection to Claims 9-11 and 14 has been overcome.

In response to the objection to the claims, Claims 9-11 and 14 have been amended to depend from Claim 1. Applicant respectfully requests that the objection to Claims 9-11 and 14 be withdrawn.

III. The rejections under § 101 have been overcome.

Applicant respectfully disagrees with the rejection of Claims 15-21 and 24 under 35 USC 101. However, in order to advance prosecution of the application, Claims 15 and 25 have been amended to recite "storing and/or providing to a user an indication of at least a portion of the data from the two-dimensional plot and/or determining step." This amendment is not made for purposes of overcoming prior art, and Applicant submits that such amendments do not affect the scope of the claims.

Applicant appreciates the Examiner's clarification of USPTO policy with respect to rejections under § 101 in the Examiner Interview with Applicant's Attorney on March 28, 2007. Applicant understood from the Examiner Interview that dependent Claims 20, 21 and 24 may be separately rejected under §101 despite the amendments to independent Claim 15, from which Claims 20, 21 and 24 depend. Applicant submits that if an independent claim satisfies the requirements of §101 by having a "useful, concrete and tangible result," an additional claim recitation in a dependent claim does not, as a general rule, negate the useful, concrete and tangible result of the independent claim. Accordingly, if the rejections under §101 for Claims 20, 21 and 24 are maintained, Applicant respectfully requests clarification regarding how an additional recitation in a dependent claim could be considered by the USPTO to negate the useful, concrete and tangible result of an independent claim.

Applicant submits that Claims 15-21 and 24 satisfy the requirements of §101 and respectfully request that the rejections under §101 be withdrawn. If the rejections under § 101 are maintained, however, Applicant respectfully requests the Examiner's suggestions for an amendment that would overcome the rejection under § 101.

IV. Independent Claims 1, 15 and 25 are patentable over Meyerhof and Holenka

Independent Claims 1, 15 and 25 have been amended to generally recite graphing the gamma ray events from the first and second gamma ray detectors as a function of energy in a two-dimensional representational plot to determine whether a second event is detected in coincidence with the first event. Support for such amendments can be found, for example, in Figures 8 and 15 and on page 13, at paragraph 50.

In contrast, Meyerhof and Holenka propose one-dimensional plots. For example, Meyerhof discusses an arrangement where pulses are permitted to pass a gate and enter a pulse analyzer 36 only when they occur in coincidence with a simultaneous pulse of amplitudes corresponding approximately to 1.02 meV. Coincidence pulses are separated according to their amplitudes by the pulse analyzer 36 and a record of the number of pulses per unit time as a function of pulse amplitude is shown on a recorder 37. Figure 3 in Meyerhof is a graph in one dimension showing the energy spectrum of oscillations produced by monoenergetic gamma rays in a detector crystal. See Meyerhof, col. 3, lines 21-25 and col. 4, lines 30-40. Holenka shows in Figure 6 a coincidence spectrum in one dimension depicting gamma rays detected in one detector in coincidence with gamma rays detected by another detector. See Holenka column 6, lines 64-67. Figure 3 from Meyerhof and Figure 6 from Holenka are shown below.

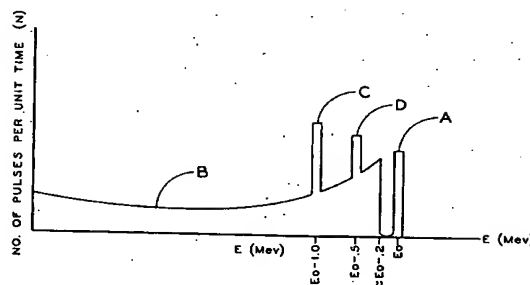


FIG. 3

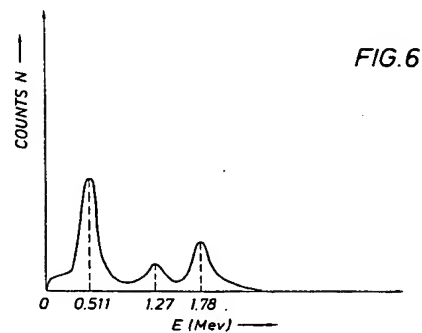


FIG. 6

In contrast, an example of a two-dimensional plot according to embodiments of the current invention is illustrated in Figure 8 of the application. It should be understood that Figure 8 is only one example of a two-dimensional plot and that other graphing/plotting methods may be used according to embodiments of the invention. Figure 8 is reproduced below:

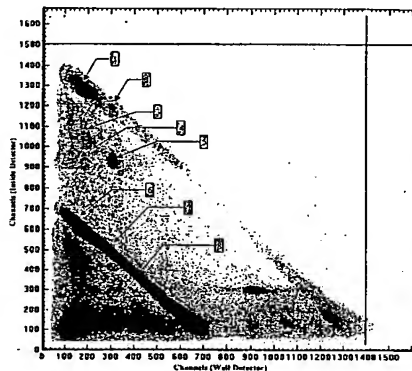


Fig. 8

As can be seen, for example, in Figure 8 of the current application, a two-dimensional plot can be used to extract various pulses that satisfy a coincidence criteria, such as adding to a prescribed energy. See Specification, page 13, paragraph 50. Accordingly, Applicant submits that nothing in Meyerhof or Holenka suggests graphing the gamma ray events from the first and second gamma ray detectors as a function of energy in a two-dimensional representational plot to determine whether a second event is detected in coincidence with the first event as recited in independent Claims 1, 15 and 25. Applicant further notes that Spurney is cited in the Action as allegedly disclosing a hermetically sealed housing (page 10 of the Action), and McKeon is cited as allegedly determining a ratio of carbon to oxygen (page 12 of the Action). Neither Spurney nor McKeon cure the deficiencies of Meyerhof and Holenka.

Applicant submits that Claims 1, 15 and 25 and claims dependent therefrom are patentable over the cited art for at least the above reasons and request that the rejections be withdrawn.

V. New Claim 25 is patentable.

Claim 25 recites a method of detecting gamma rays in a borehole, including:

receiving gamma ray events emitted from materials adjacent a borehole, wherein the gamma ray events are detected by at least two gamma ray detectors; and

graphing gamma ray events from the at least two gamma ray detectors as a function of energy to provide data in a two-dimensional representational plot to determine whether two or more events are in coincidence with each other; and

storing and/or providing to a user an indication of at least a portion of the data from the two-dimensional plot.

As discussed above, Claim 25 recites graphing gamma ray events from the at least two gamma ray detectors as a function of energy to provide data in a two-dimensional representational plot to determine whether two or more events are in coincidence with each other. As discussed above, none of the cited references teach or suggest using two-dimensional plots. Applicant submits that Claim 25 is patentable over the cited art and respectfully requests an indication of same.

IV. Conclusion

In view of the foregoing amendments and remarks, the Applicant respectfully requests that all outstanding rejections to the claims be withdrawn and that a Notice of Allowance be issued in due course.

Respectfully submitted,



Laura M. Kelley
Registration No. 48,441
Attorney for Applicants

Myers Bigel Sibley & Sajovec, P.A.
P.O. Box 37428
Raleigh, North Carolina 27627
Telephone: 919/854-1400
Facsimile: 919/854-1401

Certificate of Mailing under 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on April 4, 2007.



Carey Gregory